

# Mineral Industry Surveys

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For information, contact:

John W. Blossom, Molybdenum Commodity Specialist  
U.S. Geological Survey  
989 National Center  
Reston, VA 20192  
Telephone: (703) 648-4964, Fax: (703) 648-7757  
E-mail: [jblossom@usgs.gov](mailto:jblossom@usgs.gov)

Barbara J. McNair (Data)  
Telephone: (703) 648-7952  
Fax: (703) 648-7975

MINES FaxBack: (703) 648-4999  
Internet: <http://minerals.usgs.gov/minerals>

## MOLYBDENUM IN DECEMBER 1999

Domestic production of molybdenum in concentrate in December 1999 was about 8% more than that of the previous month and was 19% less than that of December 1998, according to the U.S. Geological Survey. Producer stocks of molybdenum in concentrate, oxide, and other product forms were 14,000 metric tons at the beginning of 1999 and 9,900 metric tons at the end of December 1999.

Included in this Mineral Industry Surveys are U.S. production, shipments, and stocks of molybdenum concentrates and materials, plus U.S. consumption, by end use, of molybdenum in the previous and current months; also included are trade data for the previous month. During the current month, Platt's Metals Week U.S.

monthly average price for molybdenum concentrate was \$3.748 per kilogram (\$1.700 per pound). The average price for dealer molybdenum oxide was \$5.626 per kilogram (\$2.552 per pound), and that for dealer ferromolybdenum was \$7.716 per kilogram (\$3.500 per pound).

For the week ending February 7, 2000, Metals Week U.S. average price for molybdenum concentrate was \$3.748 per kilogram (\$1.700 per pound). The average price for dealer molybdenum oxide was \$5.550 per kilogram (\$2.522 per pound), and that for ferromolybdenum was \$7.606 per kilogram (\$3.450 per pound).

TABLE 1  
U.S. SALIENT MOLYBDENUM CONCENTRATE STATISTICS 1/

(Metric tons, contained molybdenum)

	1998	1999		Year to date
	January-December	November	December	
Production	53,300	3,350	3,620	43,700
Shipments:2/				
Domestic	34,300	1,180	1,210	29,100
Export	17,800	1,230	1,460	12,300

1/ Data are rounded to three significant digits.

2/ Includes molybdic oxides, metal powder, ammonium molybdate, sodium molybdate, and other.

TABLE 2  
U.S. REPORTED PRODUCTION AND SHIPMENTS OF MOLYBDENUM PRODUCTS 1/

(Metric tons, contained molybdenum)

	1998	1999		Year to date
	January-December	November	December	
Gross production	57,200	2,830	3,200	39,800
Internal consumption 2/	23,400	1,210	1,640	20,300
Gross shipments	38,000	3,810	3,540	39,000

1/ Data are rounded to three significant digits.

2/ Includes molybdic oxides, metal powder, ammonium molybdate, sodium molybdate, and other.

TABLE 3  
U.S. REPORTED CONSUMPTION, BY END USES, AND CONSUMER STOCKS OF MOLYBDENUM MATERIALS 1/

(Kilograms, contained molybdenum)

End use	Molybdic oxides	Ferro molybdenum 2/	Ammonium and sodium molybdate	Molybdenum scrap	Other	Total
1999, November:						
Steel:						
Carbon	27,700	24,600	--	--	3,190	55,500
High-strength low-alloy	37,400	8,040	--	--	--	45,400
Stainless and heat-resisting	245,000	40,400	--	--	4,760	290,000
Full alloy	153,000	166,000	--	--	2,330	321,000
Tool	41,900	6,210	--	--	1,450	49,600
Total	505,000	245,000	--	--	11,700	762,000
Cast irons (gray, malleable, and ductile iron)	W	37,900	--	--	763	38,600
Superalloys	70,000	W	--	(3/)	81,900	152,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	143	3,230	--	--	6,290	9,660
Mill products made from metal powder 4/	--	--	--	--	147,000	147,000
Cemented carbides and related products 5/	--	--	--	--	16	16
Chemical and ceramic uses:						
Pigments	--	--	W	--	--	W
Catalysts	77,300	--	W	--	W	77,300
Other	W	--	--	--	--	W
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	14,000	14,000
Other	2,290	5,130	77,300	--	16,100	101,000
Grand total	655,000	292,000	77,300	--	277,000	1,300,000
Stocks, November 30, 1999	626,000	278,000	4,050	12,500	823,000	1,740,000

See footnotes at end of table.

TABLE 3--Continued  
U.S. REPORTED CONSUMPTION, BY END USES, AND CONSUMER STOCKS OF MOLYBDENUM MATERIALS 1/

(Kilograms, contained molybdenum)

End use	Molybdc oxides	Ferro molyb- denum 2/	Ammonium and sodium molybdate	Molyb- denum scrap	Other	Total
1999, December:						
Steel:						
Carbon	25,100	21,600	--	--	3,190	49,900
High-strength low-alloy	44,100	8,010	--	--	--	52,100
Stainless and heat-resisting	297,000	40,900	--	--	4,760	343,000
Full alloy	164,000	187,000	--	--	2,330	353,000
Tool	50,200	6,510	--	--	1,450	58,100
Total	581,000	264,000	--	--	11,700	856,000
Cast irons (gray, malleable, and ductile iron)	W	34,300	--	--	763	35,100
Superalloys	61,900	W	--	(3/)	77,400	139,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	W	W	--	--	6	6
Other alloys	--	4,460	--	--	6,290	10,800
Mill products made from metal powder 4/	--	--	--	--	194,000	194,000
Cemented carbides and related products 5/	--	--	--	--	13	13
Chemical and ceramic uses:						
Pigments	--	--	1,890	--	--	1,890
Catalysts	77,300	--	W	--	W	77,300
Other	W	--	--	--	1,150	1,150
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	11,000	11,000
Other	2,430	2,170	74,200	--	14,900	93,700
Grand total	722,000	306,000	76,100	--	317,000	1,420,000
Stocks, December 31, 1999	948,000	187,000	3,700	18,200	836,000	1,990,000

W Withheld to avoid disclosing company proprietary data; included in "Other" of the "Miscellaneous and unspecified uses" category.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes calcium molybdate.

3/ Included in "Other" of the "Superalloys" category.

4/ Includes ingot, wire, rod, and sheet.

5/ Includes construction, mining, oil and gas, metal working machinery.

TABLE 4  
U. S. EXPORTS OF MOLYBDENUM ORES AND CONCENTRATES  
(Including roasted concentrate), BY COUNTRY 1/

(Kilograms, contained molybdenum)

Country	1998	1999		
		October	November	Year to date
Australia	81,700	11,300	--	36,400
Belgium	4,470,000	264,000	220,000	4,250,000
Brazil	59,400	--	3,010	63,700
Canada	994,000	171,000	140,000	1,180,000
Chile	6,840,000	562,000	619	2,420,000
China	424,000	63,800	246,000	938,000
Germany	460,000	2,350	12,000	122,000
Italy	448,000	35,600	41,500	264,000
Japan	4,410,000	225,000	250,000	2,160,000
Korea, Republic of	8,660	19,700	10,900	101,000
Mexico	4,220,000	1,450	--	128,000
Netherlands	12,800,000	790,000	1,010,000	7,060,000
Spain	119,000	12,100	11,900	25,100
Sweden	894,000	83,700	59,600	601,000
United Kingdom	5,480,000	374,000	851,000	5,120,000
Other	247,000	27,900	55,000	249,000
Total	42,000,000	2,640,000	2,910,000	24,700,000

1/ Data are rounded to three significant digits; may not add to totals shown.

Source: Bureau of the Census.

TABLE 5  
U.S. EXPORTS OF FERROMOLYBDENUM, BY COUNTRY 1/

(Kilograms, contained molybdenum)

	1999			
	1998	October	November	Year to date
Australia	1,800	--	653	1,470
Canada	549,000	50,800	66,300	513,000
China	133,000	683	--	209,000
Japan	31,200	--	4,780	49,800
Korea, Republic of	1,610	327	599	11,000
Mexico	91,000	11,200	3,080	72,900
Other	852	--	--	599
Total	809,000	63,000	75,400	858,000

1/ Data are rounded to three significant digits; may not add to totals shown.

Source: Bureau of the Census.

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF MOLYBDENUM PRODUCTS 1/

(Kilograms unless otherwise specified)

Material	1998			1999		
	January-December			November		
	Gross weight	Contained molybdenum	Value (c.i.f.) (thousands)	Gross weight	Contained molybdenum	Value (c.i.f.) (thousands)
Ore and concentrates roasted	8,020,000	5,090,000	\$39,700	842,000	529,000	\$3,110
Ore and concentrates other	2,710,000	1,480,000	7,810	--	--	--
Molybdenum chemicals:						
Oxides and hydroxides	1,180,000	NA	9,610	41,400	NA	256
Molybdates of ammonium	1,240,000	684,000	8,980	160,000	90,400	820
Molybdates (all others)	192,000	113,000	982	17,000	5,970	59
Molybdenum orange	2,050,000	NA	7,950	109,000	NA	439
Mixtures of inorganic compounds	--	--	--	--	--	--
Ferromolybdenum	7,690,000	4,830,000	44,000	1,070,000	676,000	4,670
Molybdenum powders	110,000	103,000	3,210	11,200	10,900	233
Molybdenum unwrought	145,000	137,000	2,110	1,280	1,260	55
Molybdenum waste and scrap	296,000	292,000	4,080	10,000	9,990	126
Molybdenum wire	5,530	NA	500	474	NA	34
Molybdenum other	7,850	NA	1,650	1,430	NA	85
Total	23,700,000	12,700,000	131,000	2,270,000	1,320,000	9,880

NA Not available.

1/ Data are rounded to three significant digits; may not add to totals shown.

Source: Bureau of the Census.